



Volunteer Lake Assessment Program Individual Lake Reports

PILLSBURY LAKE, WEBSTER, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	5,554	Max. Depth (m):	3	Flushing Rate (yr ⁻¹)	36.8	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	45	Mean Depth (m):	1.4	P Retention Coef:	0.35	1979	EUTROPHIC	
Shore Length (m):	5,420	Volume (m ³):	263,500	Elevation (ft):	415	1998	EUTROPHIC	

TROPHIC CLASSIFICATION

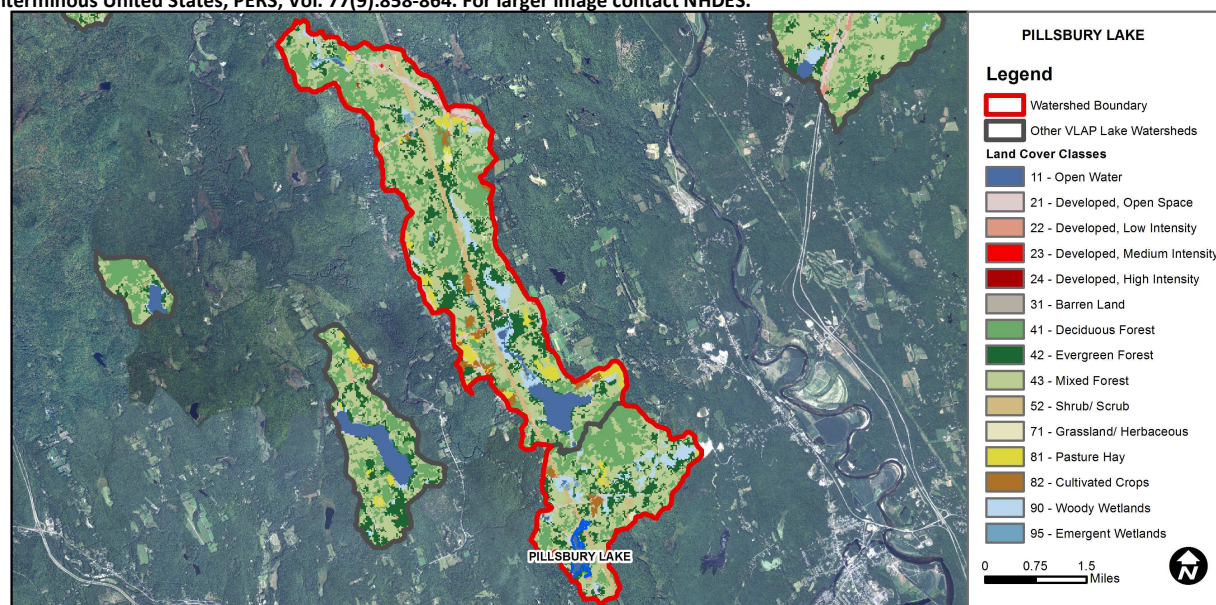
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Encouraging	<5 samples and median is < threshold. More data needed.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Encouraging	<5 samples and median is < threshold. More data needed.
Primary Contact Recreation	E. coli	Encouraging	>2 samples exist that are > 75% of geometric mean criteria, but not enough samples to calculate geometric mean. No single sample exceedances. More data needed.
	Chlorophyll-a	Encouraging	< 10 samples and no exceedance of criteria. More data needed.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	3.56	Barren Land	0	Grassland/Herbaceous	0.35
Developed-Open Space	2.92	Deciduous Forest	23.54	Pasture Hay	3.64
Developed-Low Intensity	0.65	Evergreen Forest	15.04	Cultivated Crops	2.38
Developed-Medium Intensity	0.06	Mixed Forest	37.03	Woody Wetlands	5.66
Developed-High Intensity	0.01	Shrub-Scrub	4.43	Emergent Wetlands	0.73



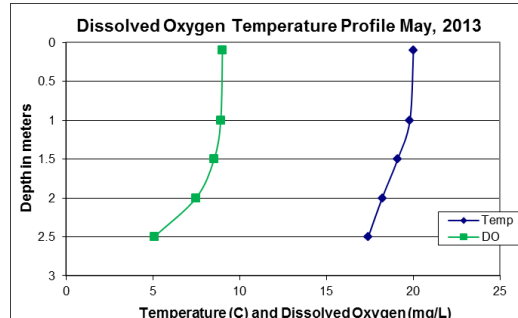
VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

PILLSBURY LAKE, WEBSTER, NH

2013 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- CHLOROPHYLL-A:** Chlorophyll levels were slightly elevated in May and much greater than the state median. Low water levels may have contributed to the elevated chlorophyll. Visual inspection of historical data indicates slightly variable chlorophyll between years.
- CONDUCTIVITY/CHLORIDE:** Epilimnetic (deep spot), Outlet and Deer Meadow Bk. conductivity and chloride were slightly greater than the state medians. Conductivity was low in Drainage #2 and the Bog, but was elevated in Drainage #9. Visual inspection of historical data indicates relatively stable epilimnetic conductivity.
- E. COLI:** Bog E. coli levels were much less than the state standard for surface waters in July.
- TOTAL PHOSPHORUS:** Epilimnetic phosphorus levels were slightly elevated above the state median however were within an average range for the pond. Visual inspection of historical data indicates variable epilimnetic phosphorus levels. Bog, Drainage #2 and Drainage #9 phosphorus levels were greatly elevated in July following significant storm events totaling 5.0 inches prior to sampling.
- TRANSPARENCY:** Transparency was within the average range for the pond and visual inspection of historical data indicates relatively stable transparency.
- TURBIDITY:** Turbidity was low at all stations except Drainage #9 and the Bog. Drainage #9 turbidity was extremely elevated indicating sediment erosion from stormwater runoff.
- PH:** Epilimnetic pH levels were sufficient to support aquatic life however have historically been below the desirable range 6.5 – 8.0 units.
- RECOMMENDED ACTIONS:** The increased frequency and intensity of storm events highlights the importance of managing stormwater runoff in the watershed. Identify areas impacted by stormwater runoff in the Drainage #9 sub-watershed and work on implementing best management practices to capture and infiltrate stormwater runoff before it reaches the pond. Consider contacting a Certified Erosion Control Specialist to evaluate areas and recommend improvements. DES also offers the "NH Homeowner's Guide to Stormwater Management" for lake and watershed residents. Educate residents to utilize phosphate free fertilizers to help reduce phosphorus loading during storm events. Keep up the great work!



NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

Station Name	Table 1. 2013 Average Water Quality Data for PILLSBURY LAKE								
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	E. Coli #/100ml	Total P ug/l	Trans. m	Turb. ntu	pH
							NVS	VS	
Bog			3	20.9	60	120		3.68	5.51
Deer Meadow Bk Inlet			11	75.1		21		0.80	6.65
Drainage #2				48.4		88		1.15	6.27
Drainage #9				112.0		45		36.40	5.98
Epilimnion	8.90	7.85		76.0		16	1.75	2.25	6.85
Outlet			12	76.6		15		0.89	6.78

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	N/A	Ten consecutive years of data necessary.	Chlorophyll-a	N/A	Ten consecutive years of data necessary.
Conductivity	N/A	Ten consecutive years of data necessary.	Transparency	N/A	Ten consecutive years of data necessary.
			Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary.

